

## CLAIMS

What is claimed is:

1 1. A surface metrology device, comprising:

2 a metrology unit receiving information from a measurement region of a surface; and

3 a first imaging camera with a first field-of-view containing the measurement region.

1 2 A semiconductor processing device, comprising:

2 a wafer process station; and

3 a metrology station apart from but coupled to the process station wherein the  
4 metrology station comprises an ultraviolet light source illuminating a measurement region of a  
5 surface. 200 - 400 nm

1 3. A semiconductor processing device, comprising:

2 a wafer process station; and

3 a metrology station apart from but coupled to the process station wherein the  
4 metrology station comprises an ultraviolet light source illuminating a measurement region of a  
5 surface and at least one spectrograph optically coupled to the measurement region of the  
6 surface.

1 4. A semiconductor processing device, comprising:

2 a wafer process station; and

3 a metrology station apart from but coupled to the process station wherein the  
4 metrology station comprises a wafer support for rotating the wafer with respect to the  
5 metrology station.

1 5. A surface reflectometer, comprising:

2 a light source;

3 an objective optic, adapted to translate relative to a wafer surface; and

4 at least one light detector.

1 6. The surface metrology device of Claim 2, wherein the measurement region is wetted by a  
2 liquid.

1 7. The surface metrology device of Claim 2, wherein the metrology <sup>station</sup> ~~unit~~ comprises optical  
2 elements that include curved substantially reflective surfaces. ?

1 8. The surface ~~metrology~~ device of Claim 3, wherein the measurement region is wetted by a  
2 liquid.

1 9. The surface metrology device of Claim 4, wherein the measurement region is wetted by a  
2 liquid.

10. The surface metrology device of Claim 5, wherein a measurement region of the wafer surface is wetted by a liquid.

11. The surface metrology device of Claim 1, further comprising at least one controllable translation stage coupled to the metrology unit to change the location of the measurement region on the surface.

12. The surface metrology device of Claim 11, wherein the at least one translation stage is a direct drive translation stage.

13. The surface metrology device of Claim 1, further comprising a rotatable chuck coupled to the surface.

14. The surface metrology device of Claim 1, wherein the surface and metrology unit are configured to have 4 degrees of freedom of movement relative to each other.

15. The surface metrology device of Claim 1, further comprising a second imaging camera with a second field-of-view.

16. The surface metrology device of Claim 15, wherein the second field-of-view is smaller than the first field of view.

